



Tonawanda Community Fund

An affiliate of "The Wellness Institute of Greater Buffalo"

Community Soil Study

Fact Sheet

In November 2012, Tonawanda Community Fund (TCF) led a preliminary study in a Tonawanda neighborhood to find out if air toxins were contaminating surface soil; and, if pollutants were present, do levels pose a health risk.

TCF tested the soil for **toxic** chemicals on Kaufman Ave/James Ave/Sawyers Ave. streets in the Town of Tonawanda, NY. This neighborhood is located off of River Rd in the heart of Tonawanda's industrial corridor. The study was initiated due to recent community complaints of a black goeey substance apparently coming from a close by air source and depositing on soil, vegetation and vehicles.

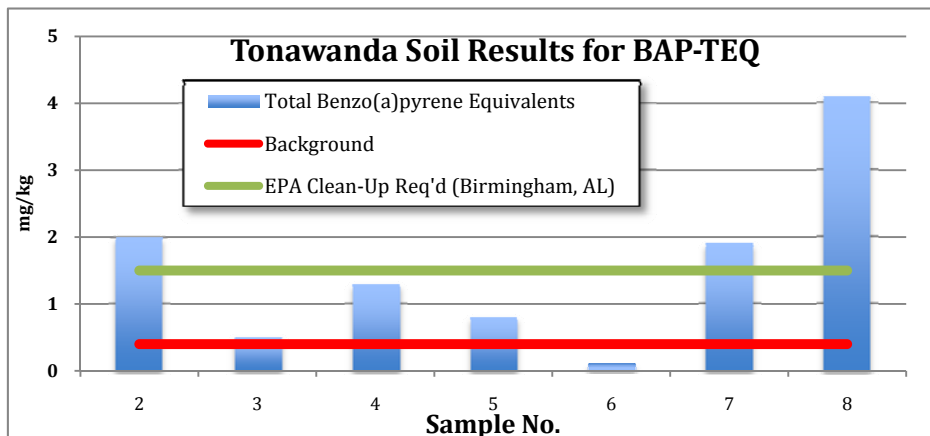
The study gained more significance when Jackie James Creedon, TCF member and former director of the Clean Air Coalition of WNY, learned that a similar community's surface soil in Birmingham, AL, where two foundry coke plants reside, was contaminated with a dangerous chemical called **Benzo[a]pyrene (BAP)**.

How the Soil was Sampled and Tested

Ken-Ton residents and TCF members, Charles Matteliano from TEQ Solutions, and Andrew Baumgartner, a student at University of Buffalo mentoring under Chemistry professor Dr .Joe Gardella, collected soil samples from a playground and 5 homes in the neighborhood. They also collected a background sample at Beaver Island State Park. Each soil sample, a composite of 6 sub samples, was tested at Test America (Amherst, NY) for 16 polycyclic aromatic hydrocarbon (PAH) compounds and 8 heavy metals.

What Was Found

Harmful Chemicals: Many chemicals were elevated above background sample. The highest levels, and of particular concern, were that of BAP and BAP equivalents or BAP-TEQ. BAP-TEQ is a measurement used to determine the total toxicity effect of PAH's in soil. The BAP-TEQ for Tonawanda samples



ranged from 0.5-4.1ppm. In Birmingham, AL community, the EPA is currently using a value of 1.5 ppm and higher as criteria for cleaning up the soil there. **Three out of seven yards in the Tonawanda study would trigger clean up if in Birmingham!**

About PAH's and BAP

Polycyclic Aromatic Hydrocarbons or PAH's are a group of many different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, tobacco or charbroiled meat. PAHs are suspected of causing cancer in humans.

- PAHs can occur in air attached to dust particles, and are subject to short and long-range air transport.
- Some PAH particles can readily evaporate into the air from soil or surface waters.
- PAHs can break down by reacting with sunlight and other chemicals in the air, over a period of days to weeks.
- In soils, PAHs are most likely to stick tightly to particles; certain PAHs move through soil to contaminate underground water.
- PAH contents of plants and animals may be much higher than PAH contents of soil or water in which they live.

Benzo[a]pyrene is often considered the most dangerous PAH. **Harmful effects of BAP include:**

- Likely causes cancer in humans: has shown to cause tumors and cancer in experimental animals.
- Causes skin disorders in humans and animals
- Causes harmful developmental and reproductive effects

In the Tonawanda community, there are two main industrial air sources of BAP: NRG Power Plant and Tonawanda Coke Corp. Non-industry specific sources include diesel trucks and automobiles.

Is Our Soil Dangerous?

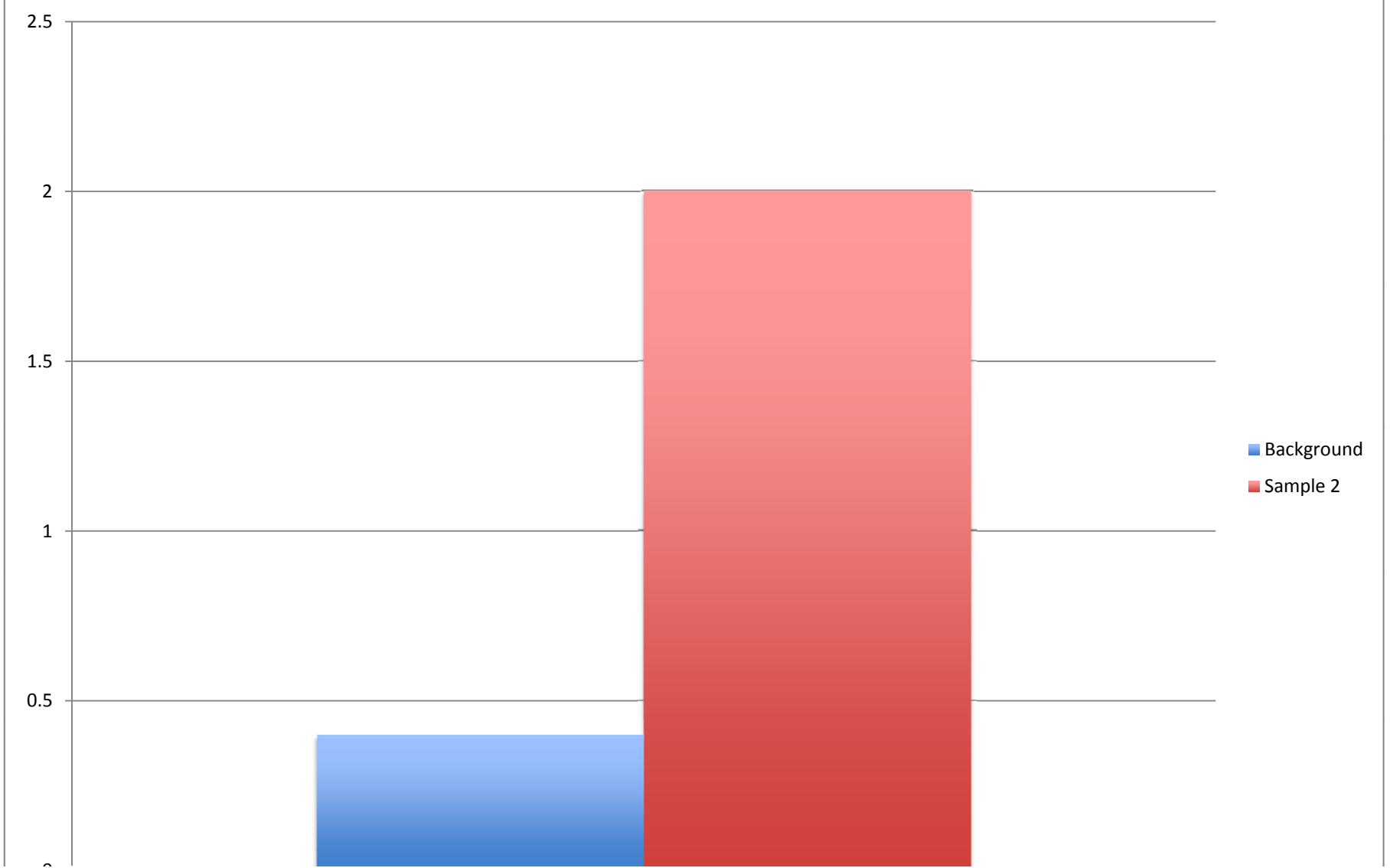
We are not sure because we are getting conflicting opinions. Furthermore, N.Y.S. Department of Health (DOH), Department of Environmental Conservation (NYS DEC) and Environmental Protection Agency (EPA) have no "clean up" level for BAP-TEQ for our area! According to the EPA region 4, where Birmingham, AL is located, **three of the yards in Tonawanda would be considered dangerous and require clean up.**

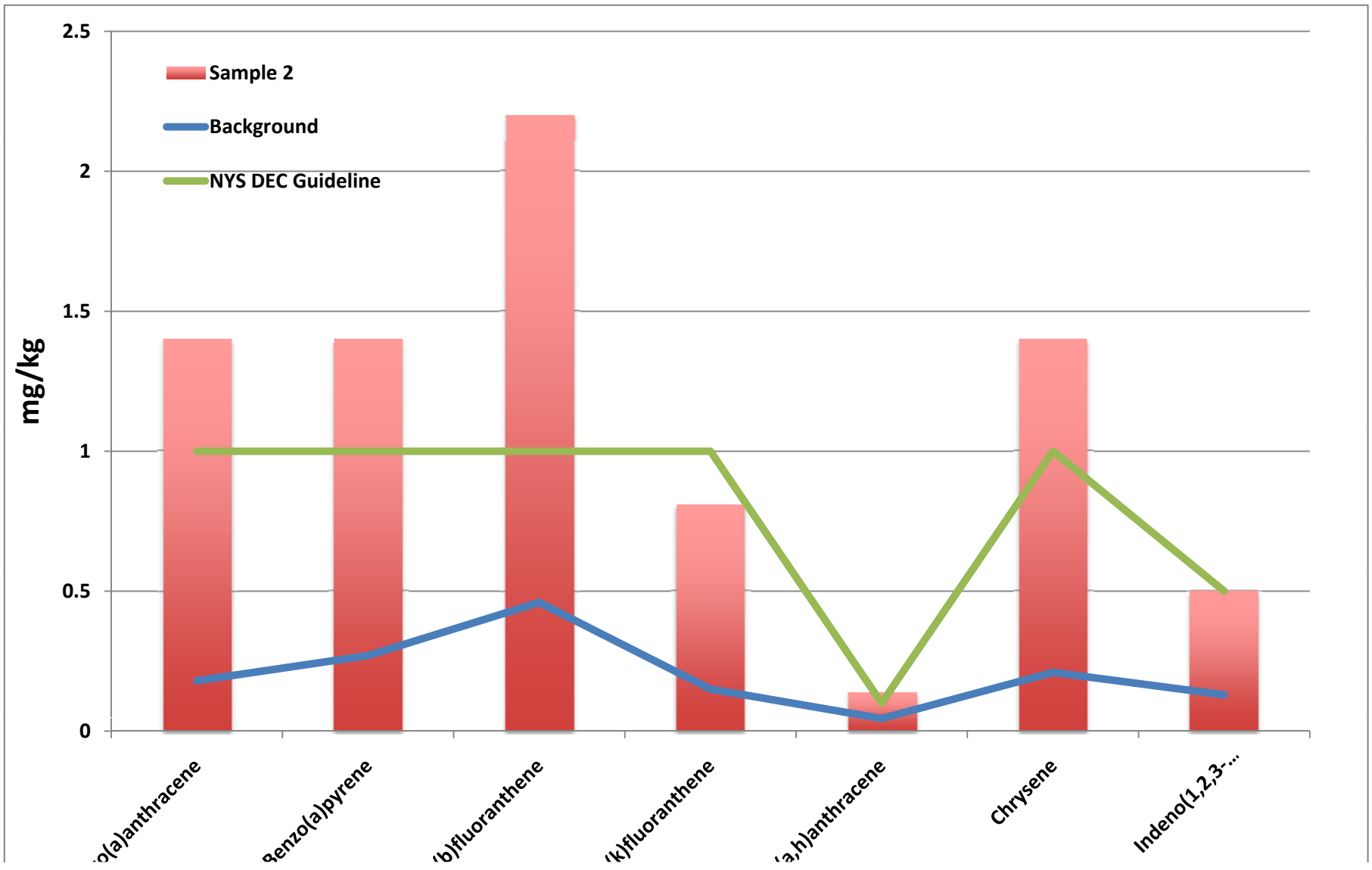
What's Next? And How You Can Help

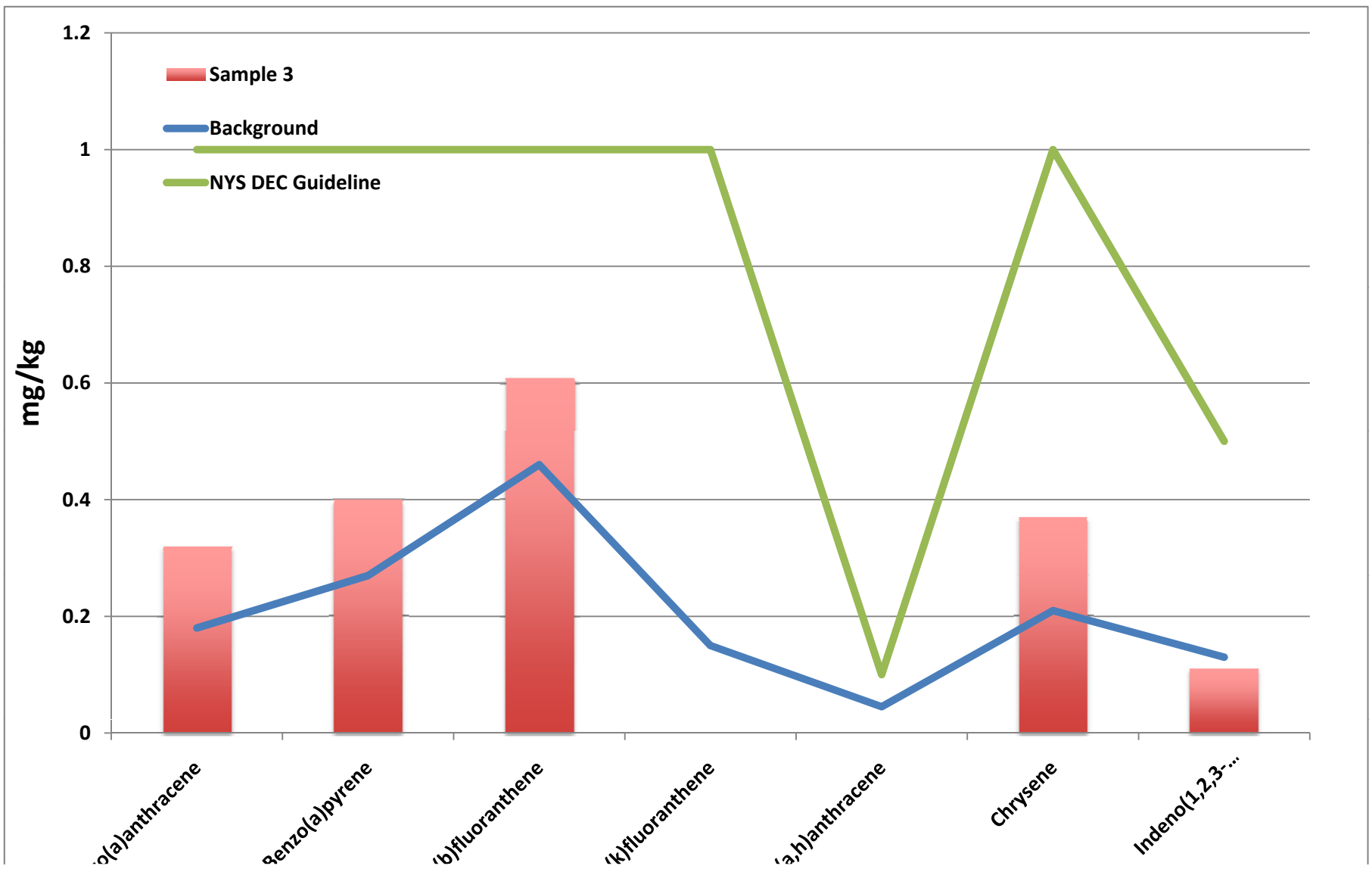
We Need.....

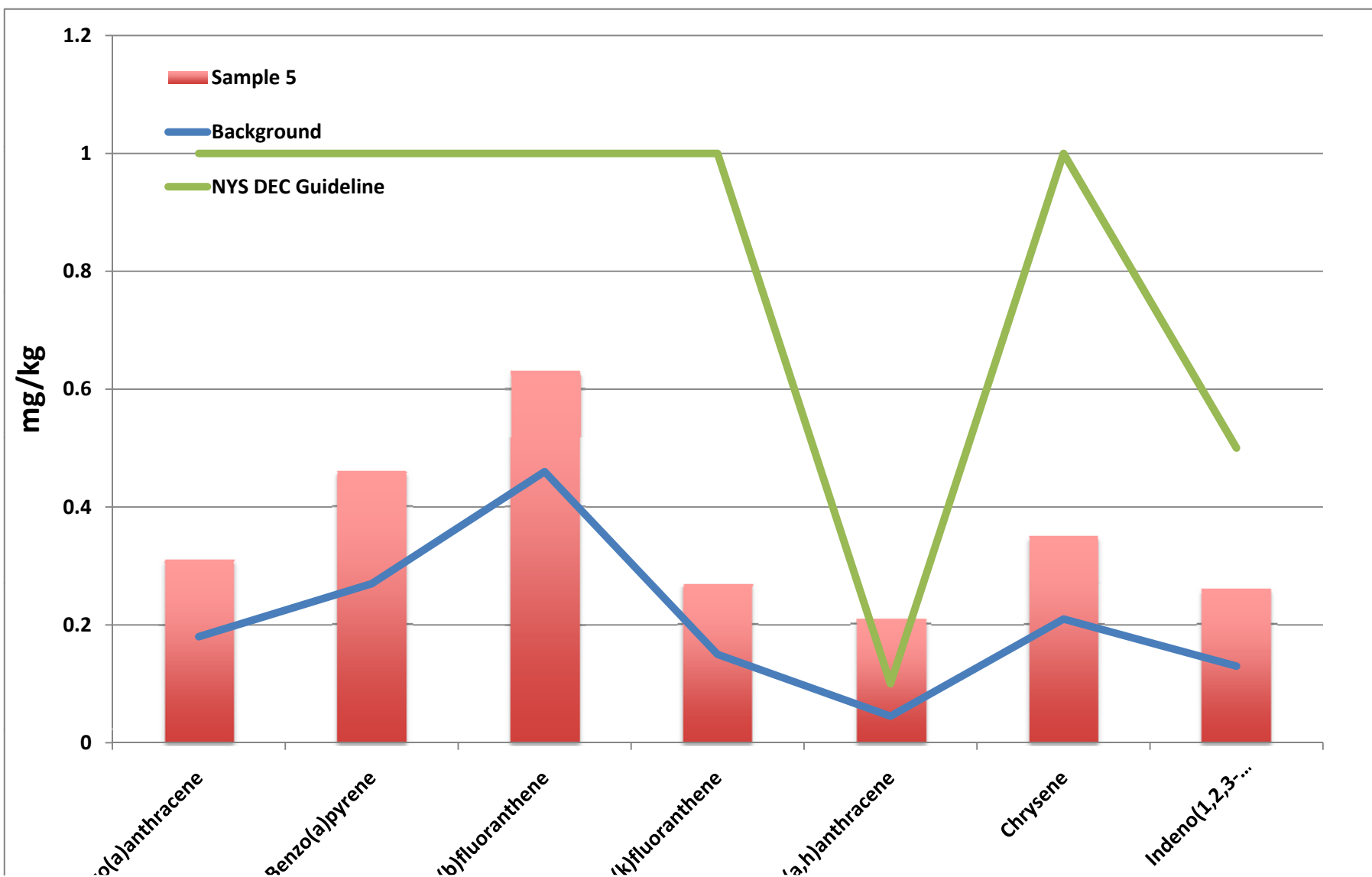
- More testing. University of Buffalo, SUNY Fredonia and TCF will be collaborating on a more in-depth soil study in 2013. **If you live in North Buffalo, Kenmore, Tonawanda's or Eastern Grand Island, and want your yard/garden tested, Contact TCF to see if your neighborhood is included in our next study.**
- Our agencies to give us clear, consistent information as to what levels of BAP and BAP-TEQ are dangerous. If you are concerned about exposure to BAP and live in one of the areas above, **please contact the NYS DEC (soil) at (716) 851-7220 and ask them "What level of BAP equivalents (BAP-TEQ) is dangerous and trigger "clean up" in my community?"**
- Industrial air emission sources of BAP controlled. NRG installed state of the art controls in 2010. We need Tonawanda Coke (TCC) to reduce their BAP emissions by installing controls. **Please contact the NYS DEC (air) at 716-851-7130 and let them know you are concerned about BAP exposure and that TCC needs to install "pushing emission controls"**

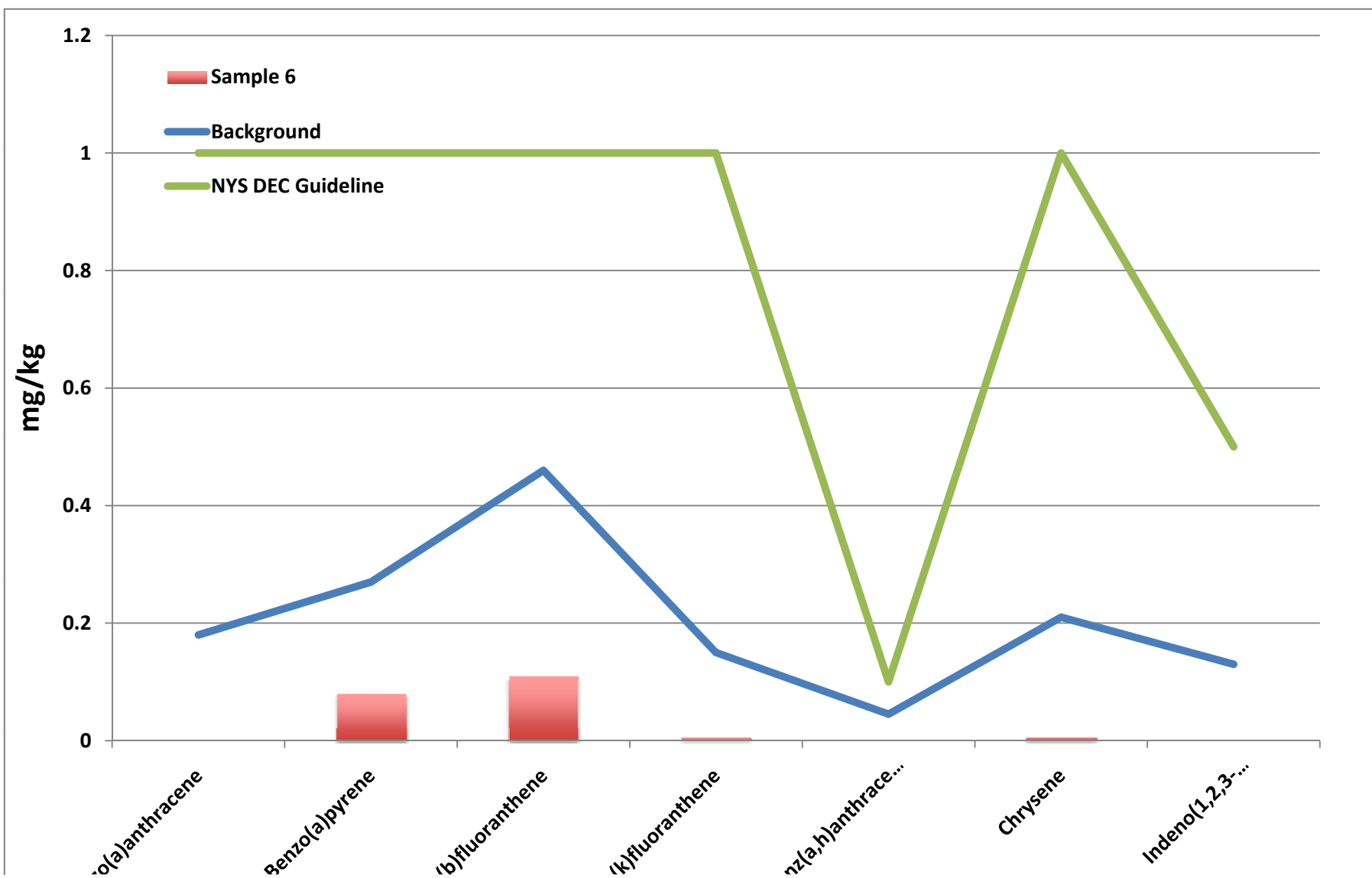
For more information, including a full report of the study: Visit Facebook group "Tonawanda Community Fund" or www.healthycommunitynetwork.com or call TCF at 716-873-6191

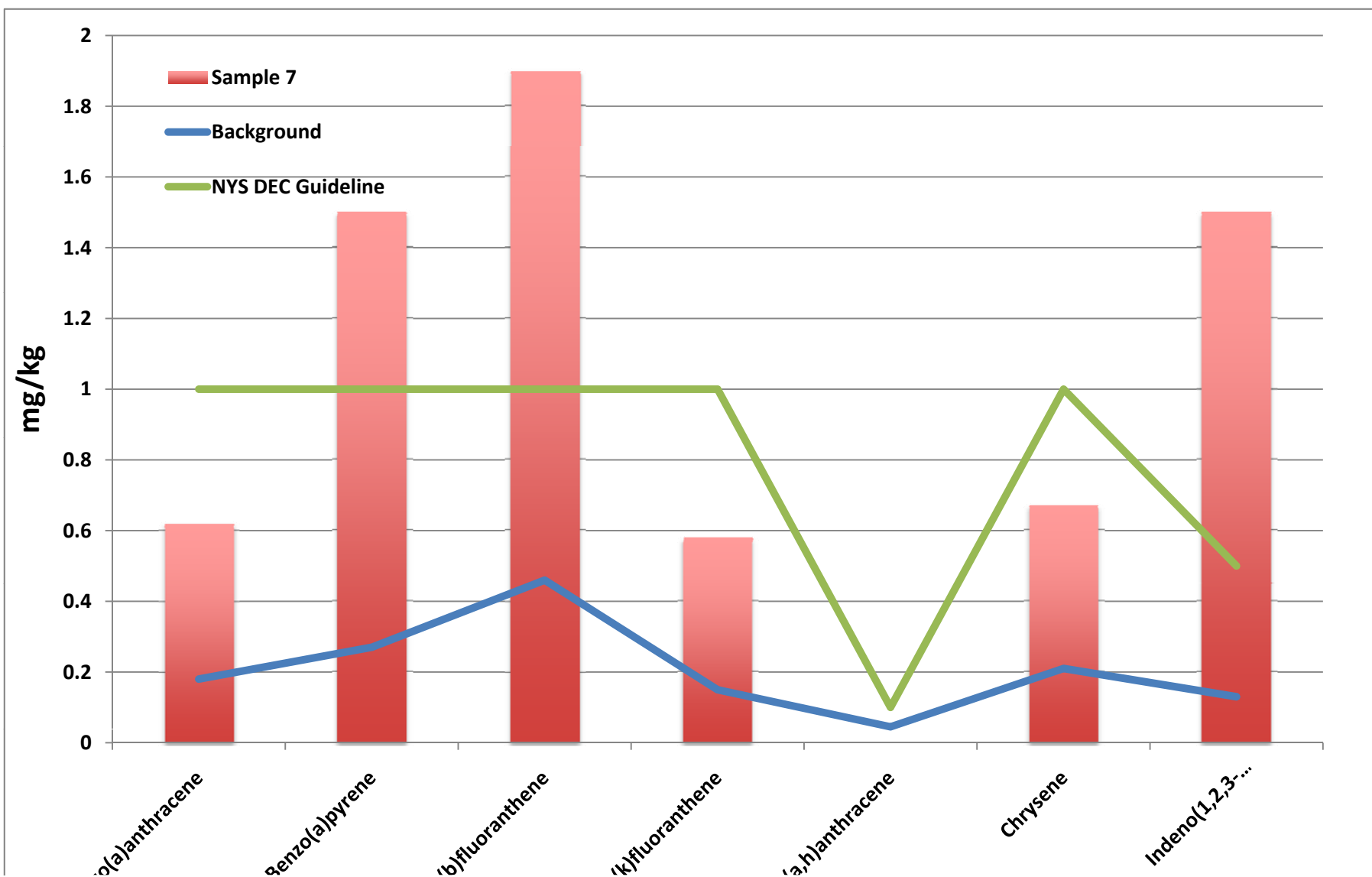


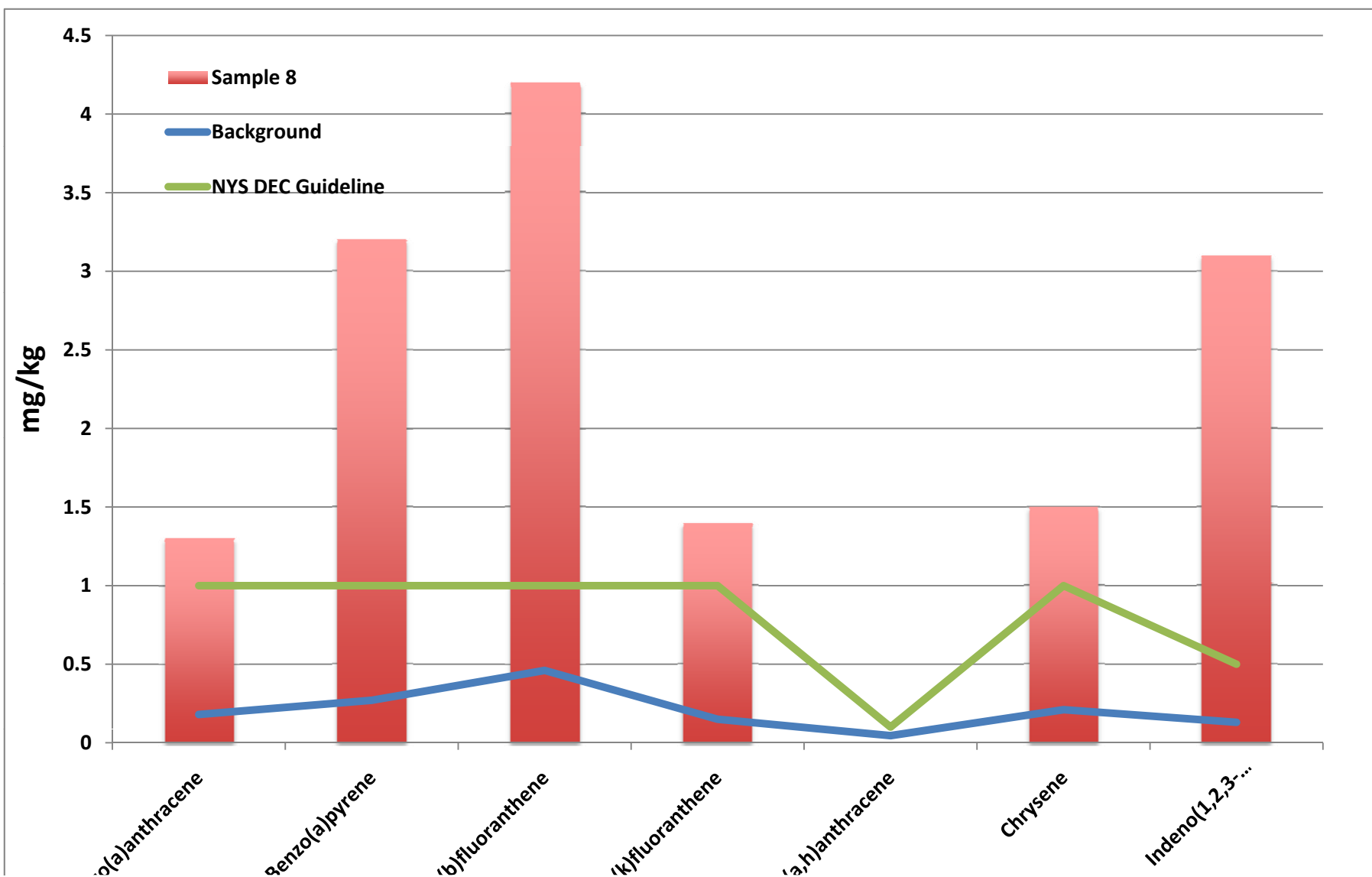




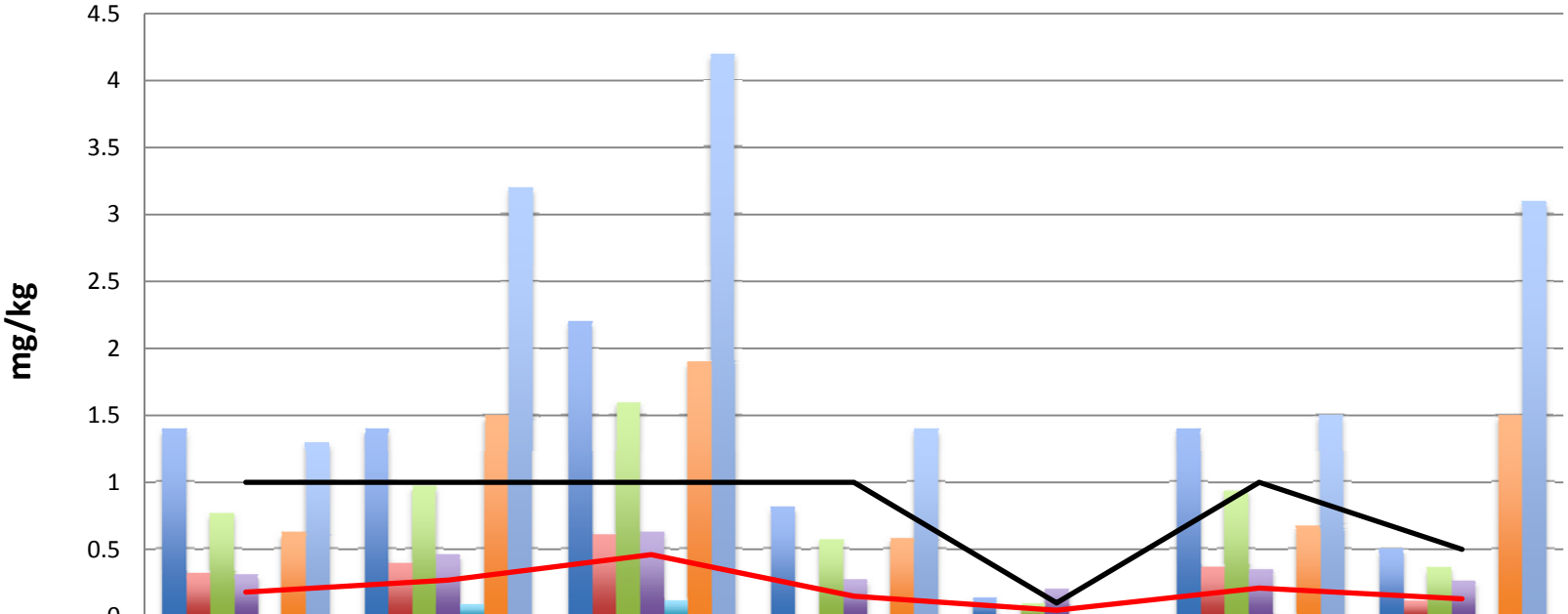








Tonawanda Soil Test Result Summary



	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluorant hene	Benzo(k)fluorant hene	Dibenz(a,h)anthracene	Chrysene	Indeno(1,2,3-c,d)pyrene
Sample 2	1.4	1.4	2.2	0.81	0.14	1.4	0.5
Sample 3	0.32	0.4	0.61	0	0	0.37	0.11
Sample 4	0.77	0.97	1.6	0.57	0.094	0.94	0.36
Sample 5	0.31	0.46	0.63	0.27	0.21	0.35	0.26
Sample 6	0	0.081	0.11	0.0045	0	0.0061	0
Sample 7	0.62	1.5	1.9	0.58	0	0.67	1.5
Sample 8	1.3	3.2	4.2	1.4	0	1.5	3.1